

Applicant Name Whitefish, City of
Project Name Whitefish Wastewater System Improvements

Project Abstract

The Whitefish Wastewater Treatment Facility was modified from "Phase Isolation" treatment to an aerated lagoon facility in 1978. In 1986, improvements were made to the Main Lift Station and a phosphorous-removal process was added downstream from the facility's aerated lagoons. In 1995, the city received an Administrative Compliance Order (ACO) from the Montana Department of Environmental Quality (DEQ) in response to unpermitted overflows and bypasses during high flow events. Since that ACO, the city has implemented numerous projects to rectify problems with the wastewater infrastructure, including inflow mitigation, long-term solids handling, upgrading the aeration system, influent structure, Main Lift Station pump capacity, and control improvements. In 2005, the city initiated the process of updating its overall Utility Master Plan and identified a number of remaining needs throughout the wastewater system. In 2006, the city completed a Wastewater System Preliminary Engineering Report (PER) that further assesses the remaining needs, evaluates feasible alternatives, and recommends capital improvements to address those needs. The remaining wastewater infrastructure needs include Main Lift Station capacity enhancements, new pretreatment process, Main Lift Station wetwell maintenance, phosphorous-removal process redundancy, rehabilitation of the existing flocculating clarifier, evaluation of the effluent diffuser, bio-solids disposal permitting, and repair of eroded dikes in the aerated lagoons. The city anticipates funding through the Treasure State Endowment Program (TSEP) and the Renewable Resources Grant and Loan Program (RRGL) to implement specific recommendations from the 2006 Wastewater PER. These include pretreatment, Main Lift Station bypass capability, and phosphorous-removal redundancy.

The remaining problems at the Whitefish treatment facility are an inefficient and dangerous pretreatment process (manually cleaned bar screen in a confined space), the inability to bypass the Main Lift Station for necessary wetwell cleaning and maintenance, and lack of redundancy in the phosphorous-removal process. Several other needs were identified in the 2006 wastewater PER as explained above, but the city has committed to implementing those capital improvements with its own resources due to time constraints.

The proposed project involves constructing a new building adjacent to the Main Lift Station that will house an automated rotary screen pretreatment process. The new equipment will remove solids and stringy materials from raw wastewater more efficiently and will de-water and containerize the materials for disposal. The new building will also include a "bypass basin" that will be plumbed for use in bypassing the Main Lift Station. When influent flows are diverted to the bypass basin, a trailer-mounted, high-volume, suction-lift pump would convey the wastewater directly to the forcemain downstream of the Main Lift Station and on to the wastewater plant for treatment. This will allow temporary bypassing of the Main Lift Station for needed inspection, cleaning, and maintenance of the wetwell. Finally, the project will include construction of another flocculating clarifier, similar to the existing clarifier. A second clarifier will provide redundancy in the phosphorous-removal process and allow the city to ensure continued compliance with its Montana Pollutant Discharge Elimination System (MPDES) permit. Redundant clarifiers will also allow the city to perform necessary maintenance and repairs on its existing clarifier without suspending phosphorous removal. Without the new clarifier, the existing clarifier cannot be taken out of service.